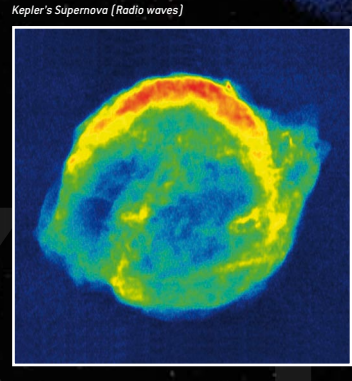
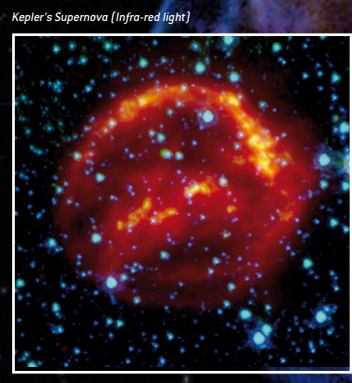
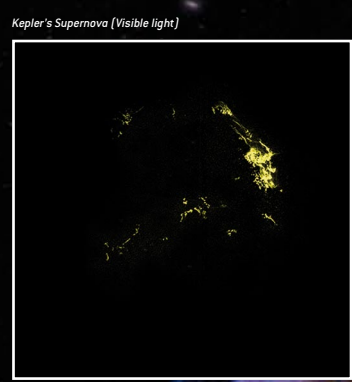
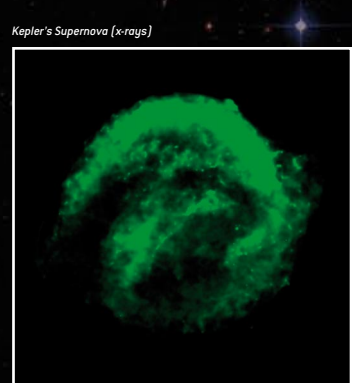


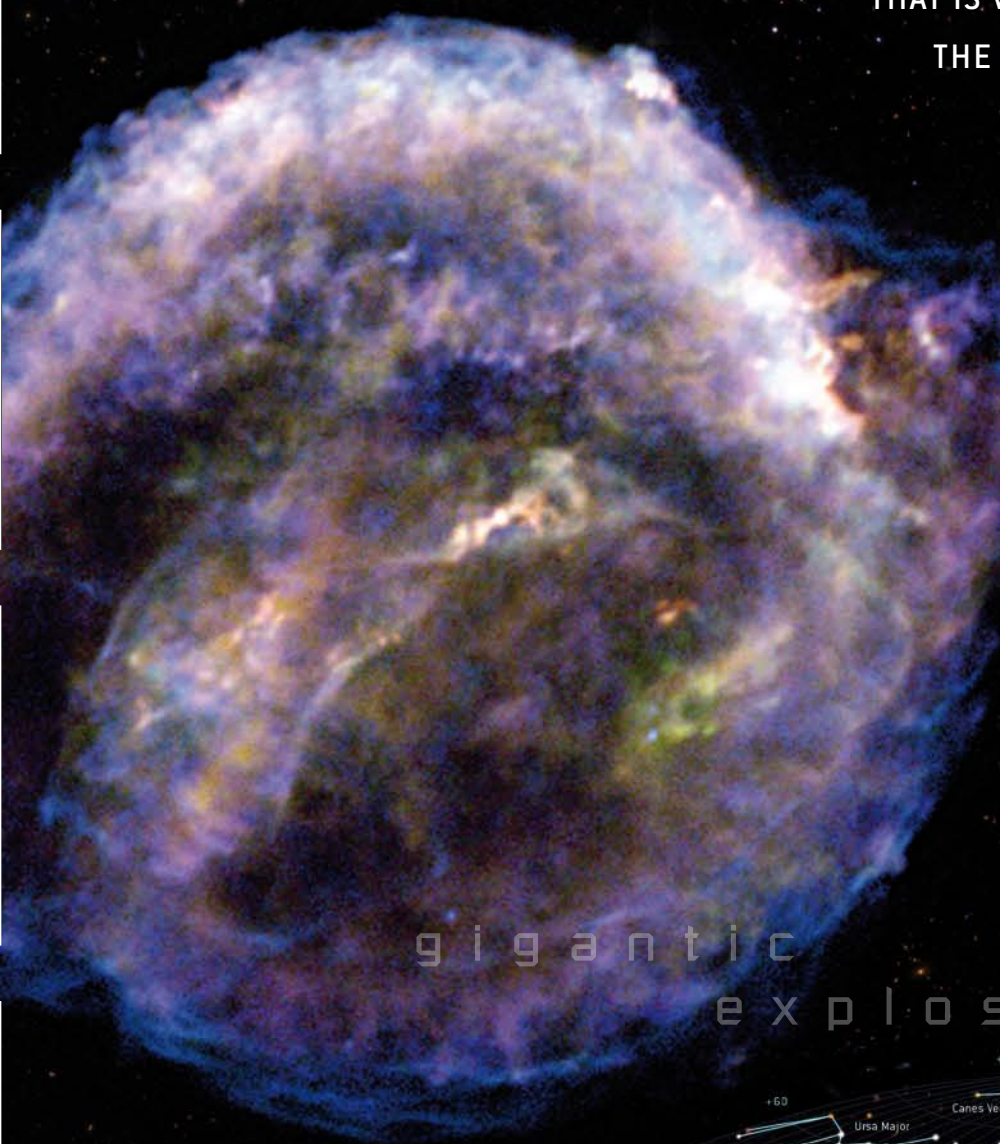
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X-rays image obtained by the Chandra satellite of the remains of the explosion observed by the astronomer Kepler in 1604. The different colors indicate the presence of different chemical elements



Cosmic cataclysms

THE DEATH OF A STAR EMITS A BURNING BLAST THAT IS VISIBLE IN X-RAYS AND DISPERSES THE INGREDIENTS OF LIFE INTO SPACE



The most enormous stars end their lives in a **gigantic explosion**.

These celestial **fireworks** light up the visible sky for several weeks.

It is at times like these that all the **nuclei** of the atoms created at the core of stars during their lives are propelled into space.

These particles of **stardust** are elements that can be found on Earth, in the **matter** surrounding us and in our own bodies. During an explosion, matter is heated to dozens of millions of degrees.

It lights up in **x-ray** light, during several thousand years, in a shell-shape or like a network of filaments.

Zoom

The explosions that mark the end of the life of giant stars are called "supernovae". The nuclei of the atoms manufactured by stars, such as carbon, oxygen or iron, are then dispersed into space at speeds of over 10,000 kilometers per second. This matter, the ashes of such explosions, adds heavy elements to the interstellar environment. These elements are then found later in planets and living organisms, which are therefore really made of stardust. Supernovae are rare events in human terms, as just two or three explode per century in the Galaxy. The last explosion visible to the naked eye was observed on 17 October 1604 by the astronomer, Johannes Kepler. It was located 16,000 light-years away from Earth, in the constellation Ophiuchus. The size of the ball of gas today, four hundred years after the explosion, is about 100 light-days, i.e. 18,000 times the distance between the Sun and Earth.

